



20th Street South Interstate Access Evaluation

City Council and County Commission Presentation
Dec 8th, 2016

Project History

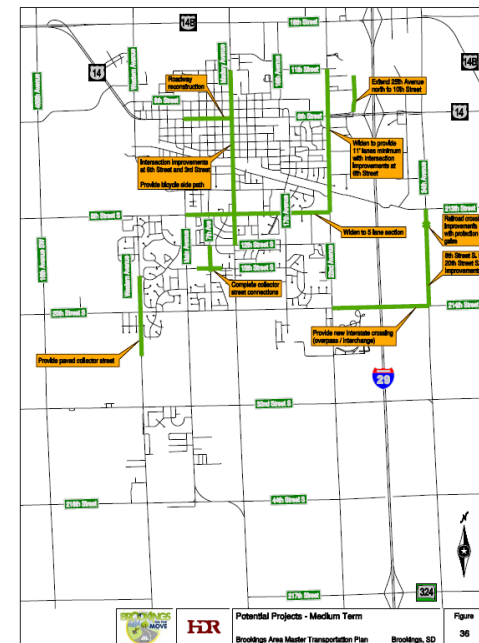
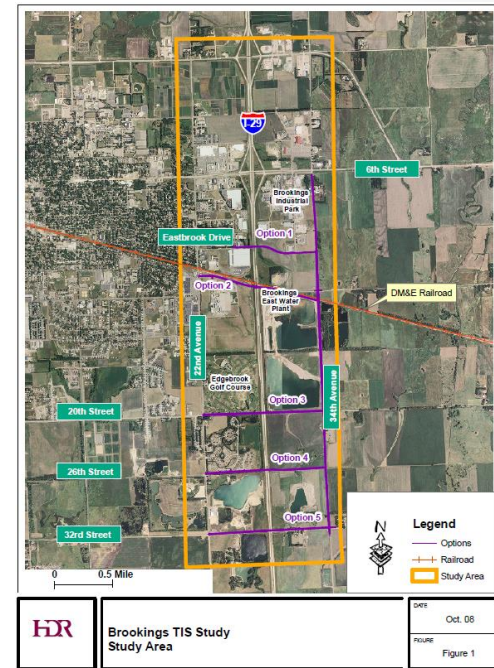
- Previous Studies

- **Industrial Park Study 2009**

- Reviewed how much traffic would be drawn to 20th Street South if it existed, didn't look at significant future development
- Determined that based on current Origin and Destination 20th Street would not have a significant impact on congestion on 6th Street in the short term due to most development north of 20th Street

- **Brookings Area Transportation Masterplan Study 2011**

- Defined Improvements along 6th Street that SDDOT & City will be implementing in 2017
- Determined based on capacity this was a medium term (not short term) needed project and would be driven by development



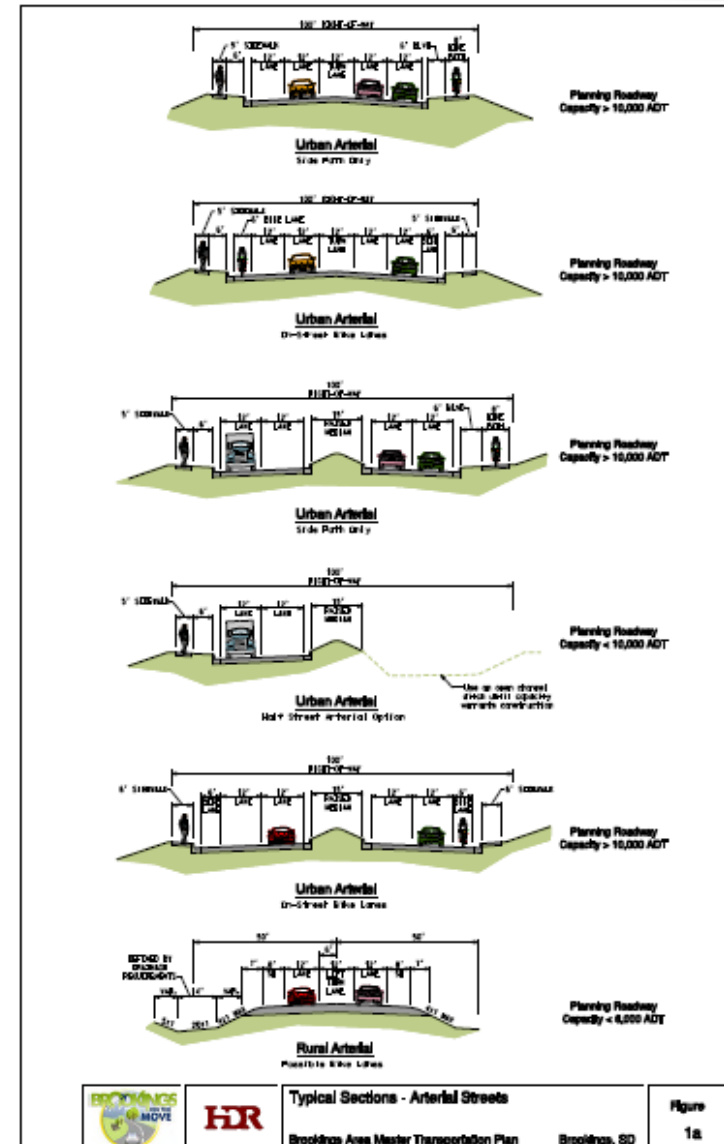
Why this Project



- Better access for Brookings County and the City of Brookings from Interstate 29, would also provide additional access to Aurora if streets were extended
- Would allow for commercial, industrial, and residential development to expand south of the industrial park
- **Determine if capacity constraints along existing corridors would show a need for additional routes or access (i.e. how will 6th Street and 22nd Avenue operate in the future)**
- **Determine if Federal or State Funding was a possibility and if so at what level would they participate**

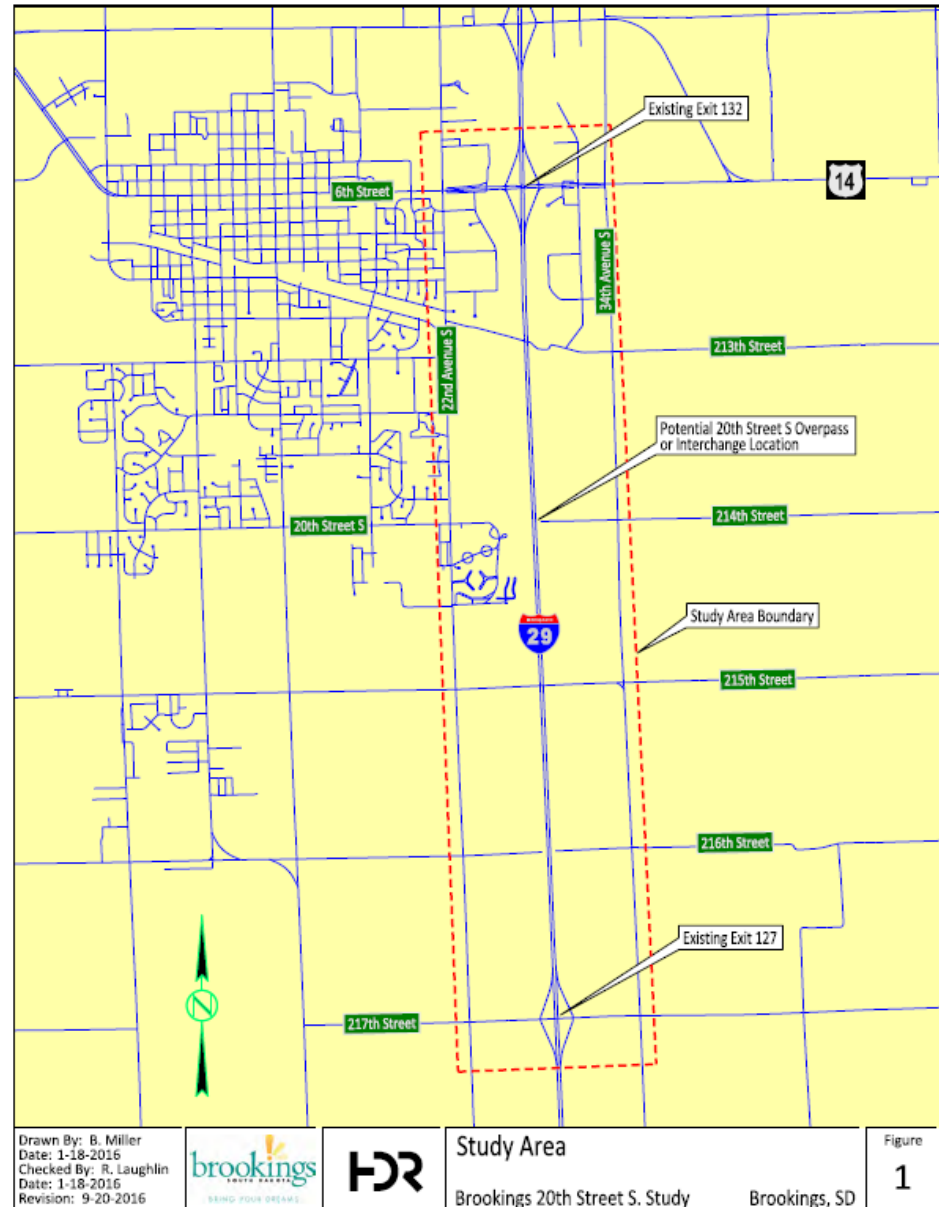
Project Purpose

- Develop Traffic projections along 20th Street South with either an Overpass or Interchange, to determine what type of road would be needed and future costs associated with developing 20th Street South
- Determine whether FHWA criteria are satisfied for new interchange at 20th Street South
 - Is there a roadway capacity need that can only be satisfied by additional access to the Interstate?
 - Would a new interchange degrade Interstate operations?
 - How would interstate access at 20th Street South affect 6th Street or the existing Interchange
 - Would a new interchange pose environmental impacts?

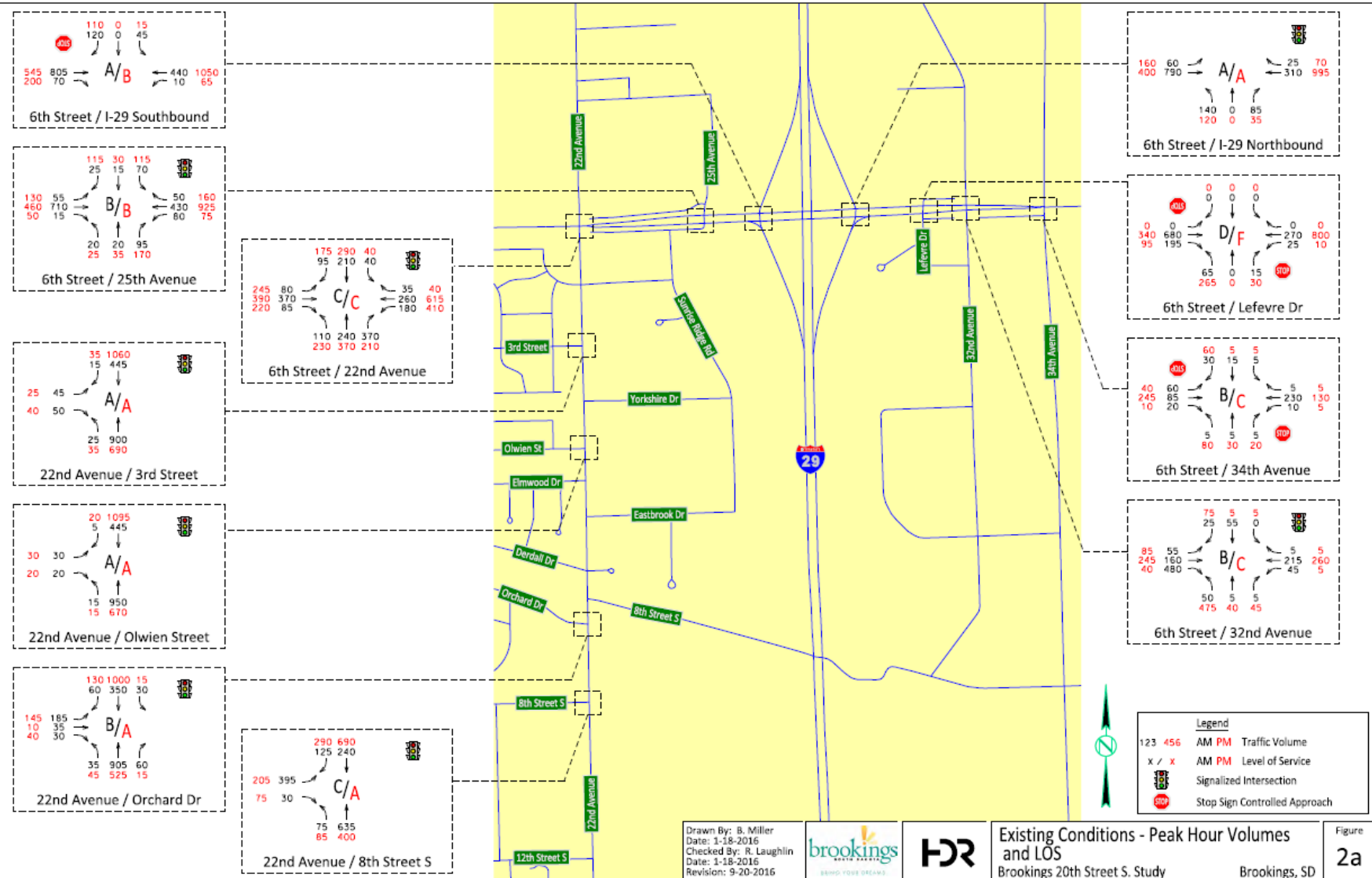


Project Tasks

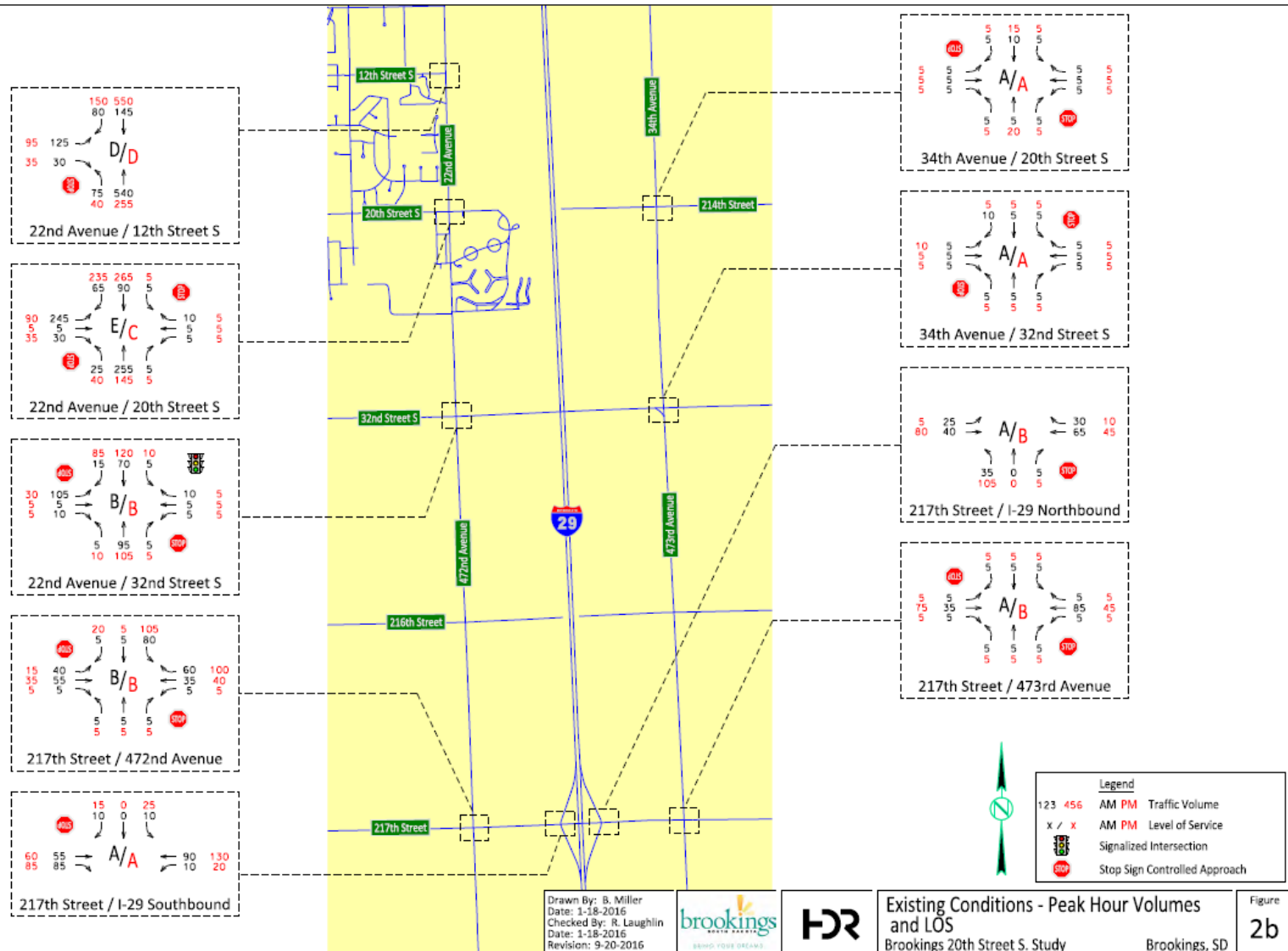
- Data gathering
- Traffic forecasting
- Operations analysis
- Crash analysis
- Environmental review
- Coordination with FHWA and SDDOT
- Documentation



Existing Conditions

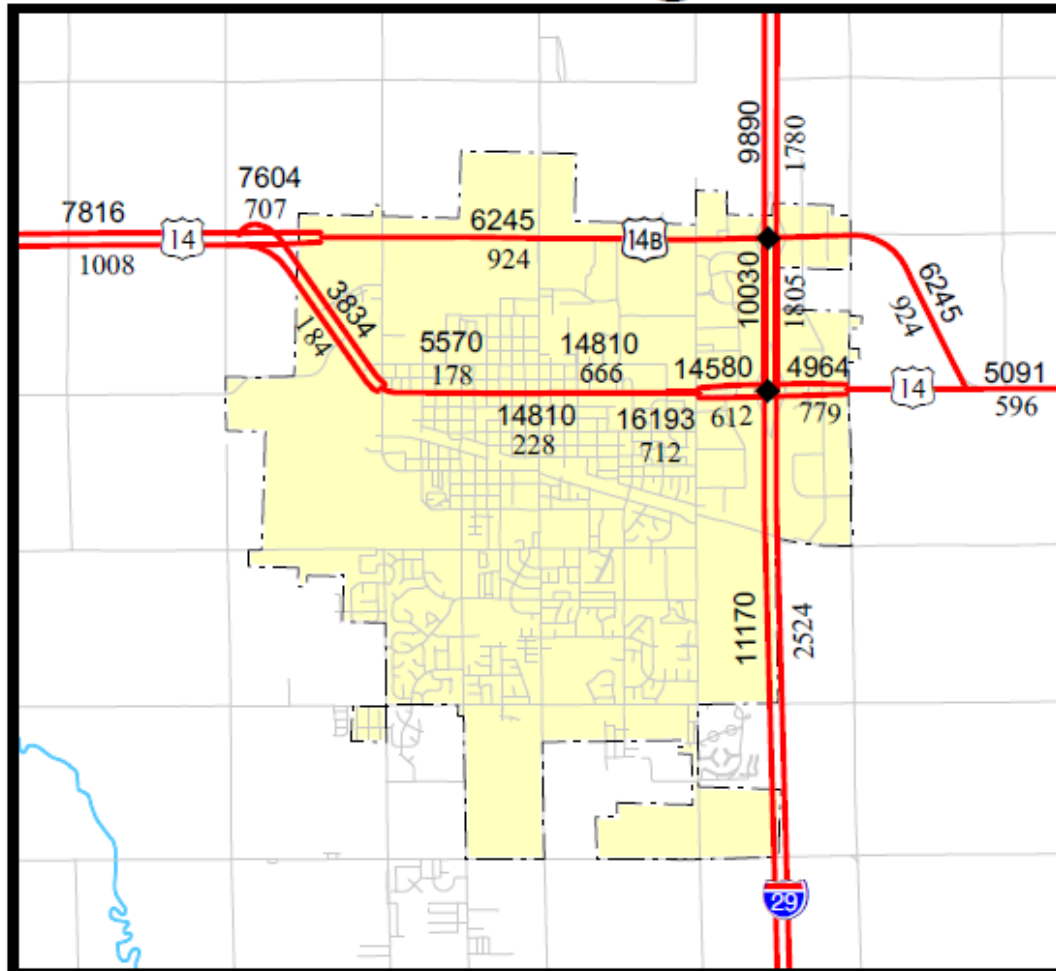


Existing Conditions (Cont.)

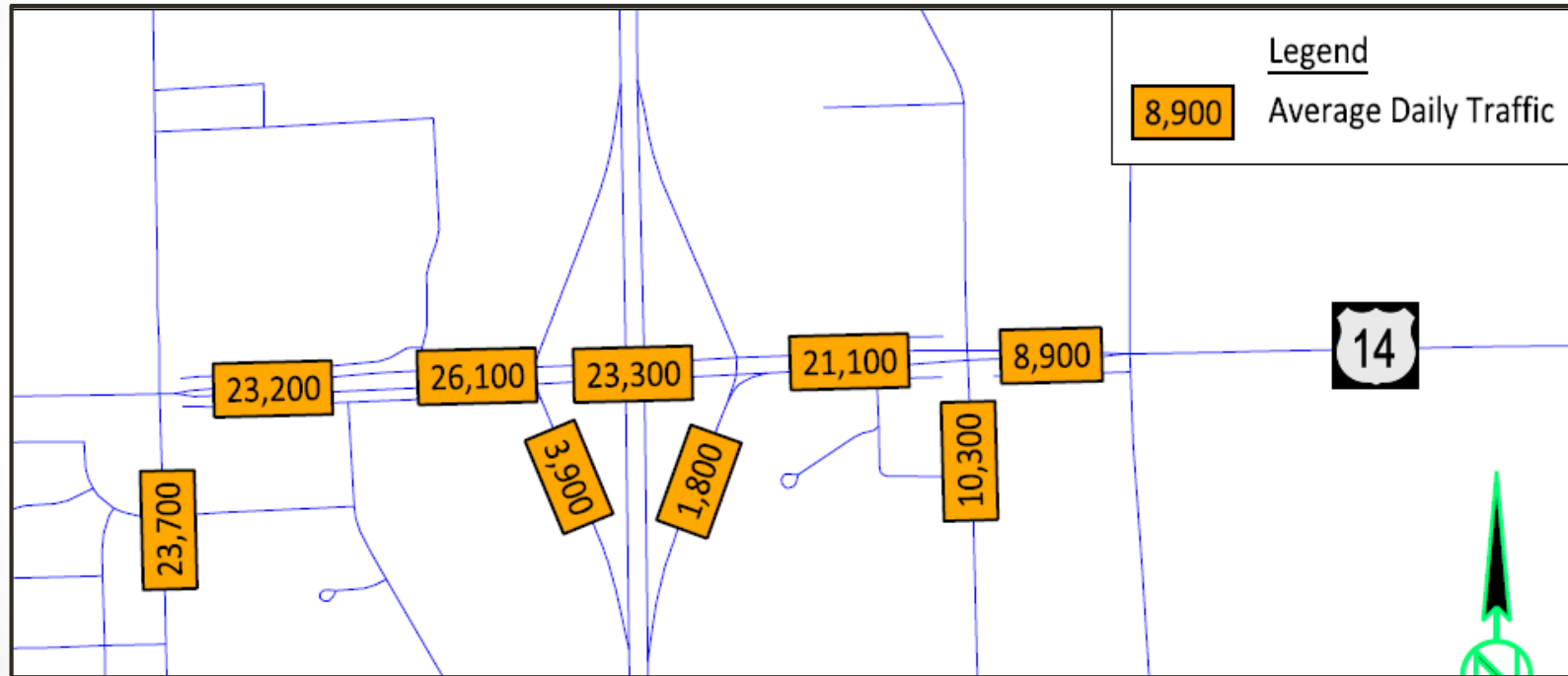


2015 Existing Traffic Volumes

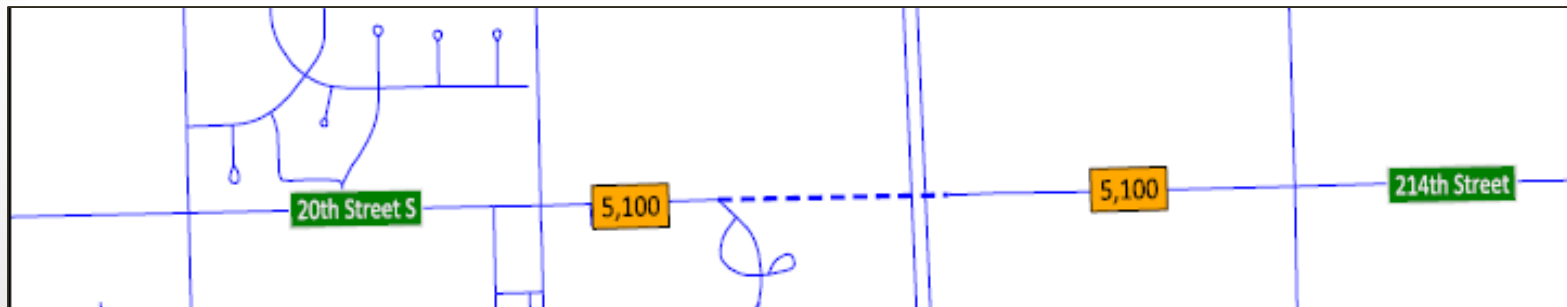
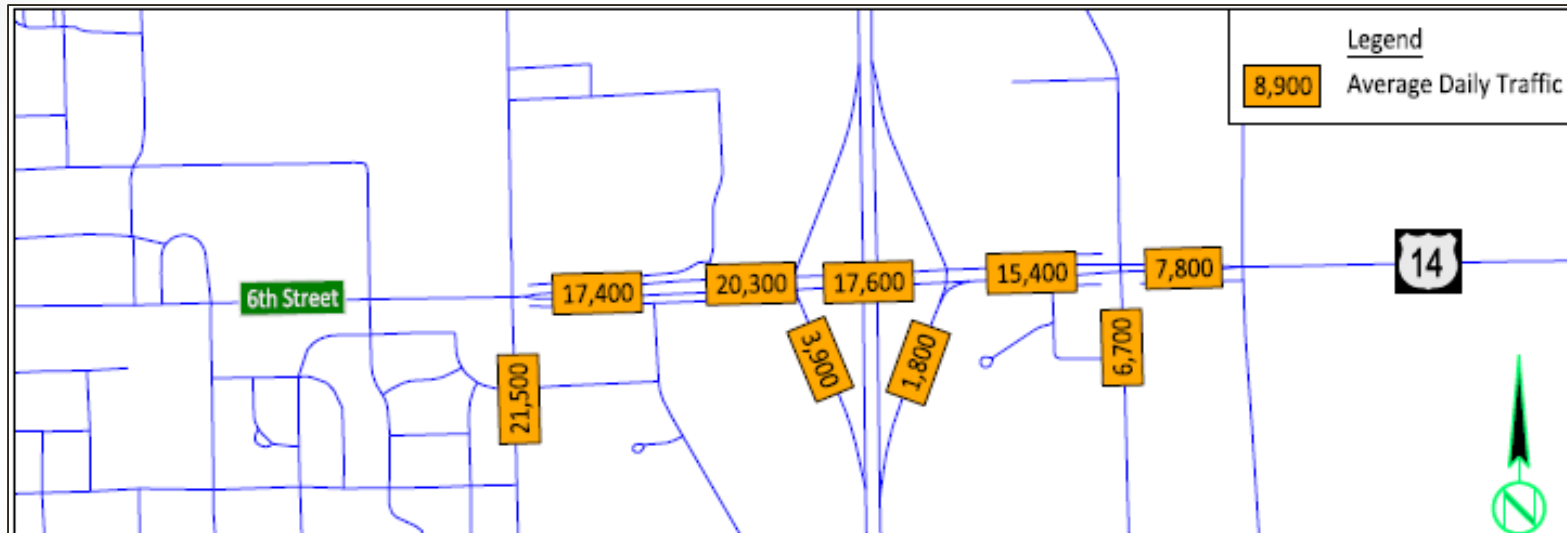
Brookings



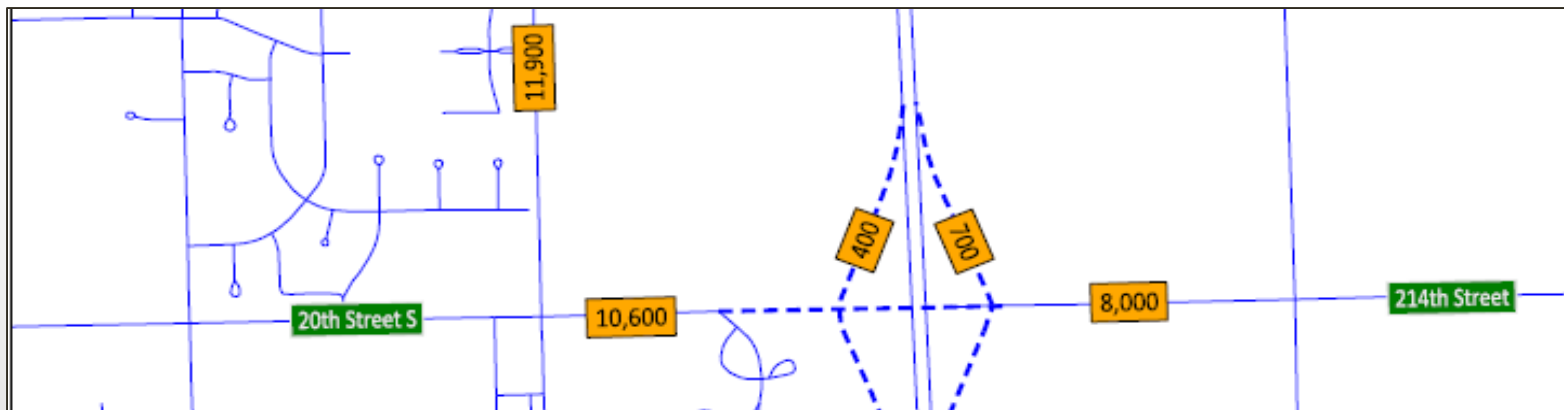
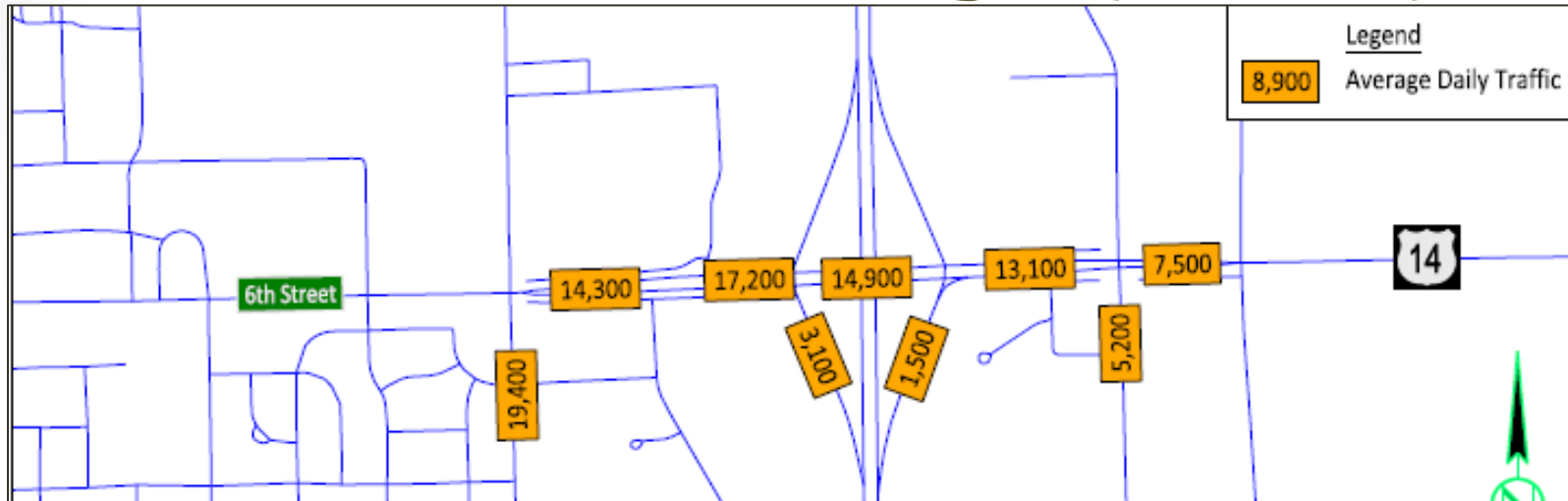
2045 NO BUILD Traffic Volumes (ADT's)



2045 BUILD Traffic Volumes with Overpass (ADT's)



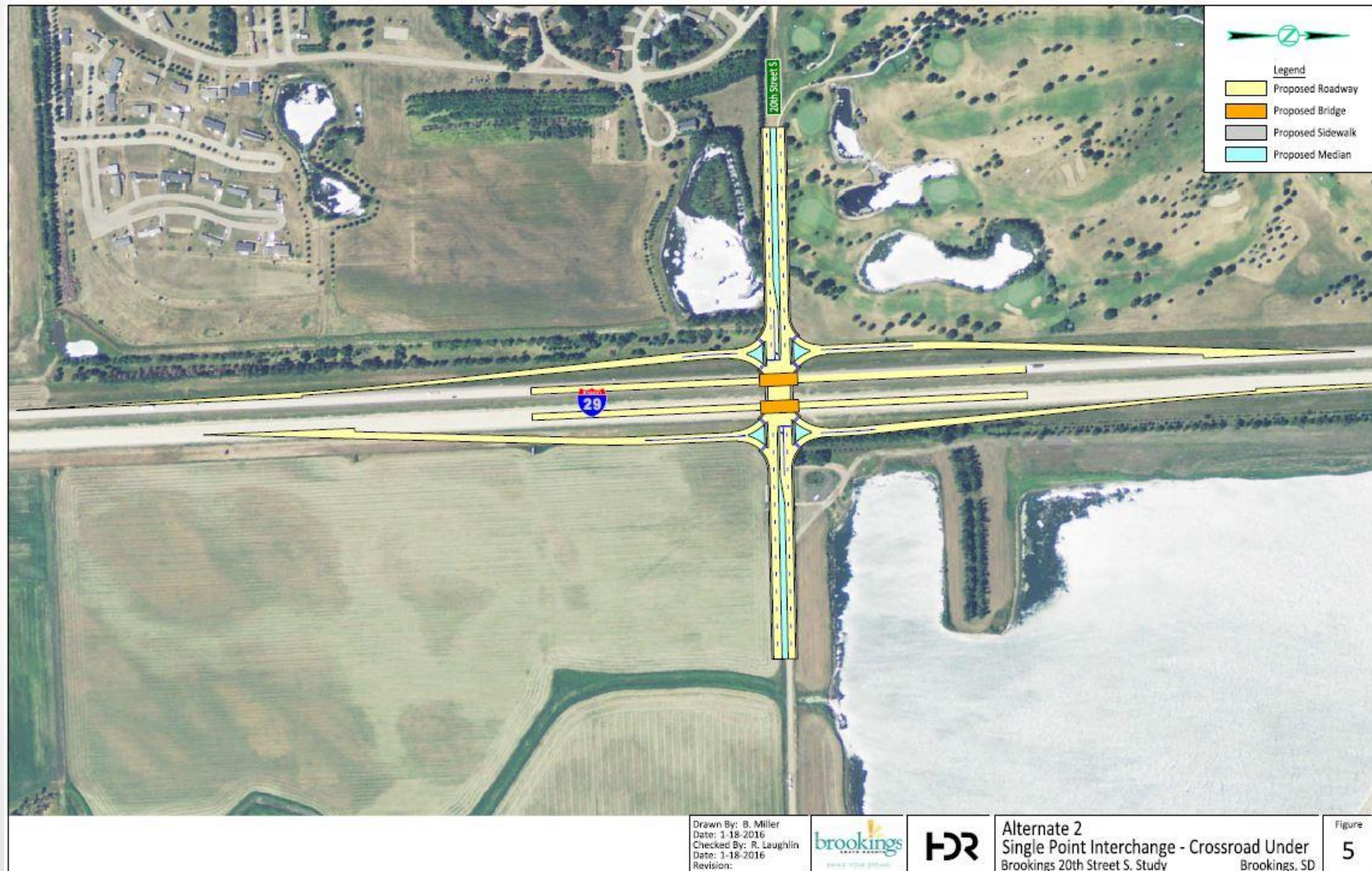
2045 BUILD Traffic Volumes with Interchange (ADT's)



Interchange Alternative 1



Interchange Alternative 2



Interchange Alternative 3

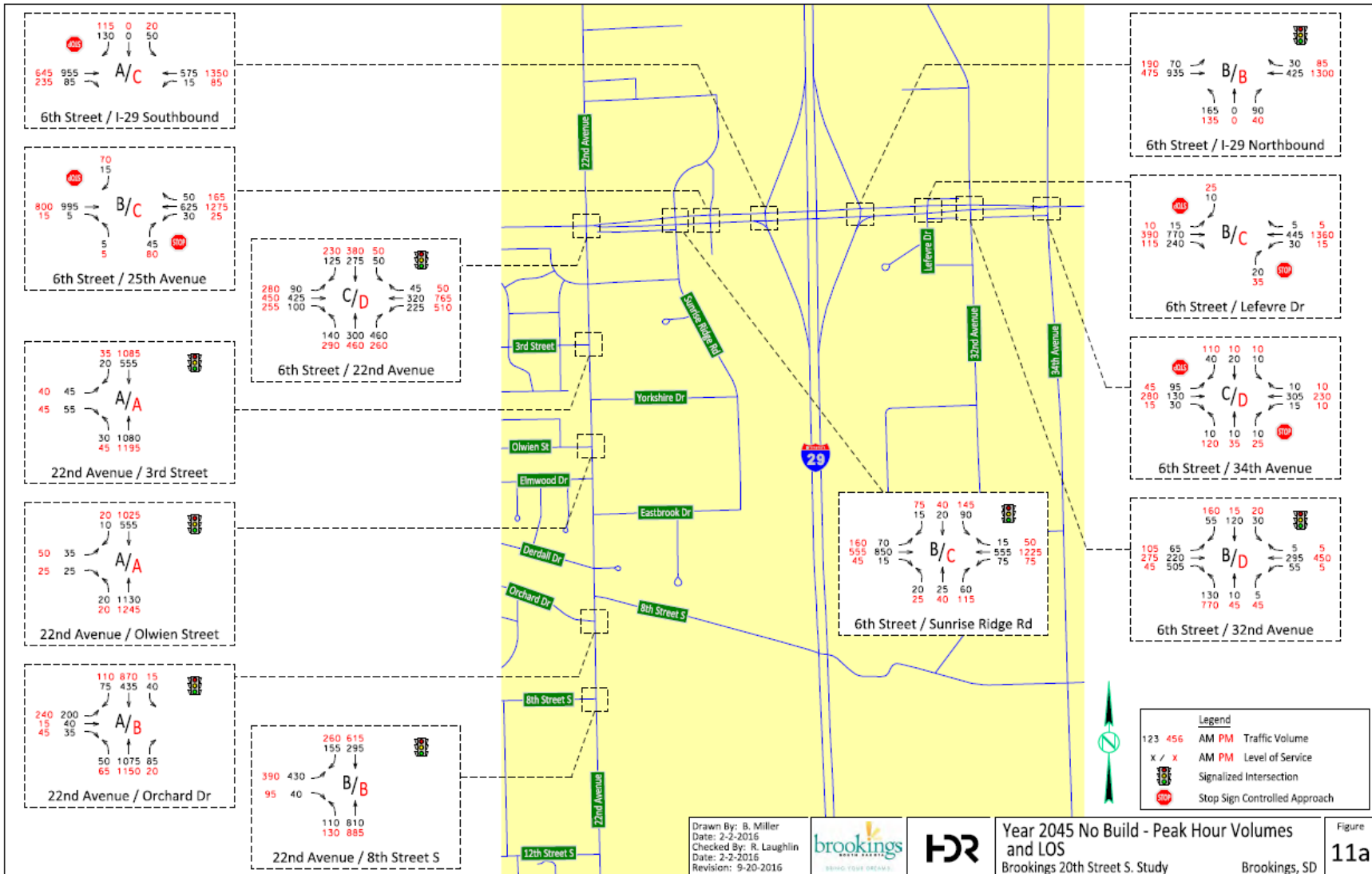


Interchange Alternative 4

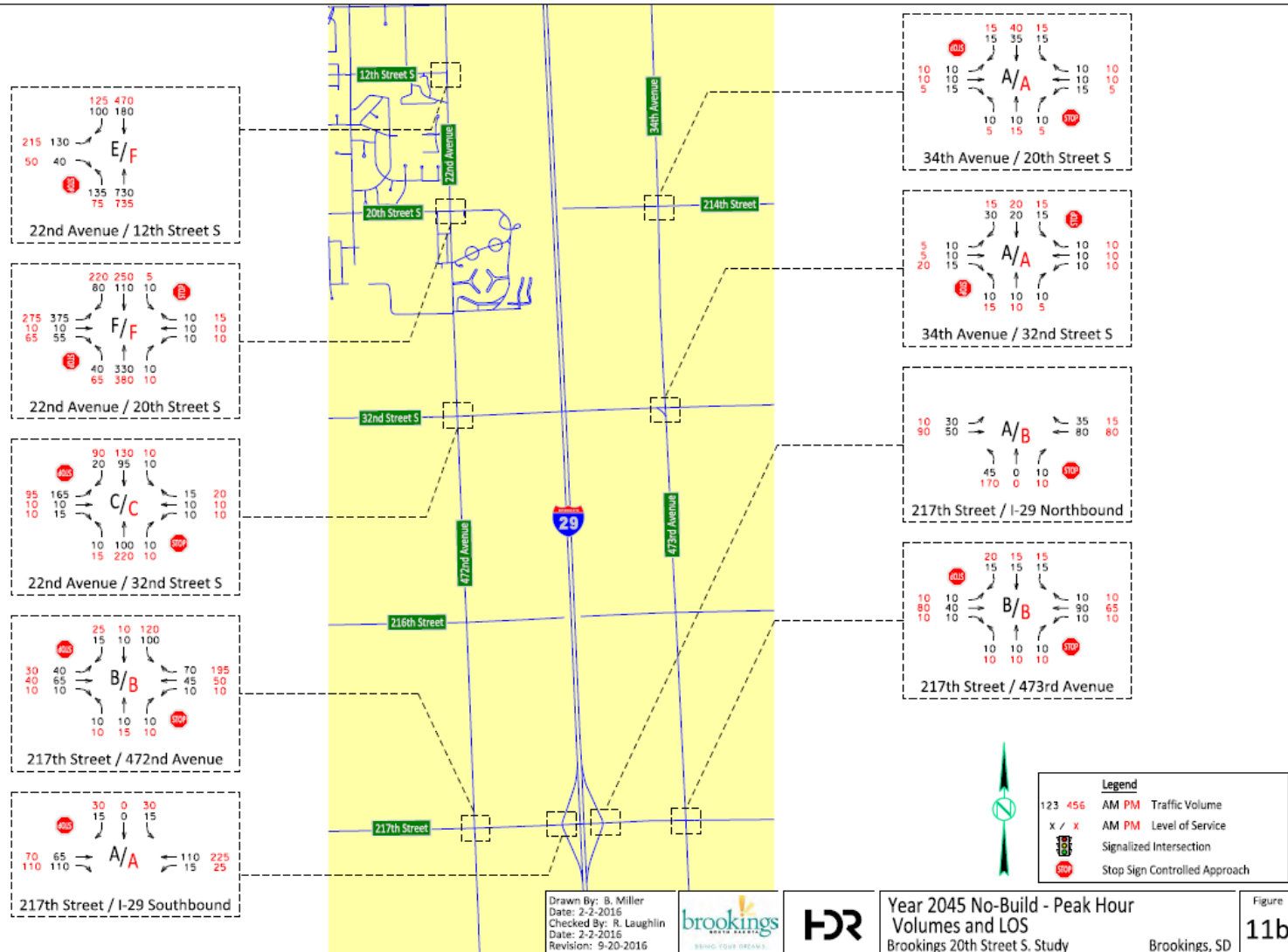


Future No-Build Conditions

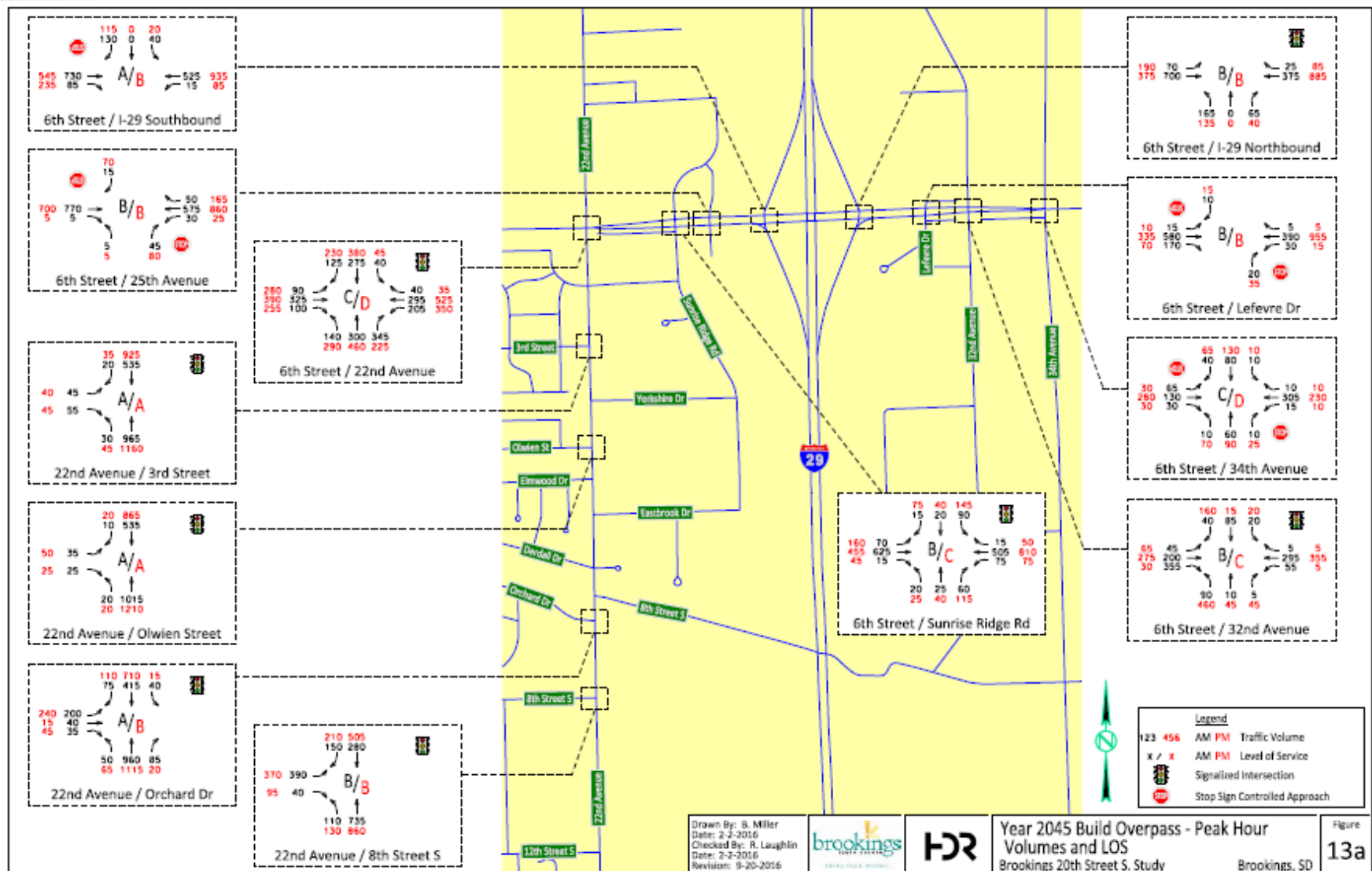
(all Future Options assume 2017 Improvements are complete)



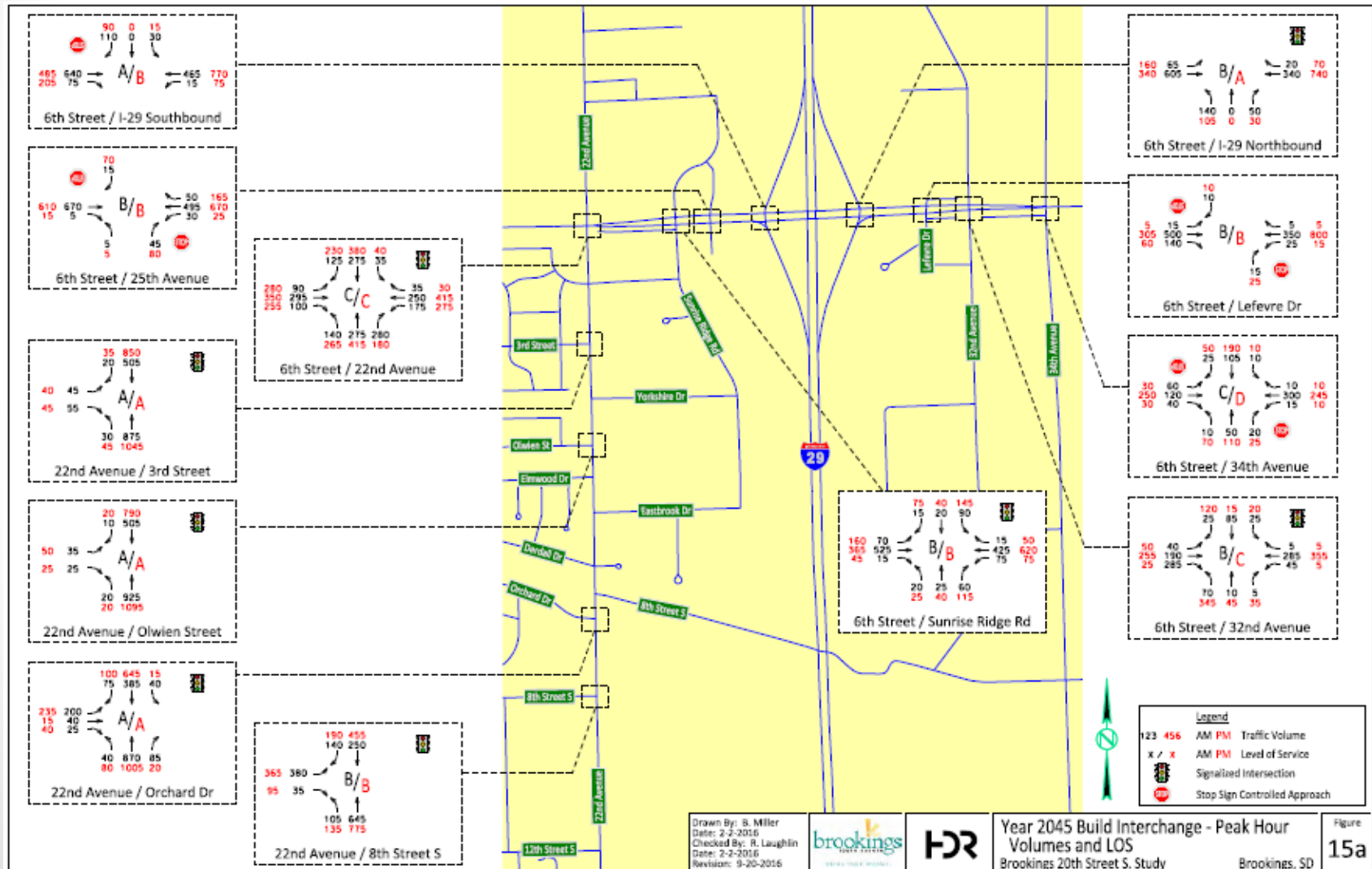
Future No-Build Conditions (Cont.)



Future with 20th St. S. Overpass



Future with 20th St. S. Interchange



Interstate Operations with Interchange



Project Estimates

Overpass Cost ~ 13 Million
(includes 3 lane roadway costs
from 22nd Avenue to 34th
Avenue)

**Interchange Cost ~ additional
4.5 to 5 Million to add ramps**

Environmental Review

- Section 4(f) and 6(f) resources – small impacts requiring mitigation
- Farmland
- Floodplain – permit required
- Wetlands – small areas requiring mitigation
- Cultural Resources – none found, field survey needed
- Threatened and Endangered Species – minimize tree clearing
- Noise – noise analysis required
- Alternatives 1 and 2 have least impact, **but do not work well for phased construction to take place....**

Environmental Screening Factor	Analysis Result
Land Use	Alternatives 1,2 favored over 3,4
Section 4(f), 6(f)	All options will require coordination & mitigation
Farmlands	Alternatives 1,2 favored over 3,4
Floodplains	Alternatives 1,2 favored over 3,4
Wetlands	Alternatives 1,2 favored over 3,4
Cultural Resources	No detailed data available
Threatened & Endangered Species	Alternatives 1,2 favored over 3,4
Noise	Analysis deferred

Results Summary

- The programmed 2017 improvements on 6th Street allow the Level of Service Requirements (LOS) to be met to beyond 2035 and we only go to LOS D in a few locations by 2045. This finding will affect the funding participation at this time by the SDDOT as the 20 year forecasts do not indicate a condition that warrants improvements to the current interchange at 6th Street or Interstate mainline.
- An overpass approval through FHWA is possible, environmental study would be needed.
- Access to Interstate 29 with any of the interchange alternatives does not appear to degrade the service of the Interstate, an Interchange Justification Study would need to be completed and approved followed by an environmental study.

Next Steps

- For an Overpass – Complete an Overpass Justification Report which would need to be approved by the SDDOT and FHWA
- For an Interchange – Complete an Interchange Justification Report which would need to be approved by the SDDOT and FHWA
 - Either report would require a phasing and funding plan identifying who would be the funding agencies, prior to completing the IJR it is recommended a draft funding plan be developed.
- Environmental Documents – Depending on funding an environmental document (EA, CatX, USACE Coordination, etc.) will need to be completed and approved. Construction would need to begin within 5 years of the completion of this document or the document would require a re-evaluation.

Questions?

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